

REMARKS

Claims 1-23 and 34-38, and 40-48 are now pending in this application, of which claims 1, 11, 18, 35, 36, and 40-41 are in independent form.

Claims 1, 5-11, 13-23, 34-38, and 40-43 are currently amended, claims 33 and 39 are newly cancelled, and claims 44-48 are newly added.

Summary of Examiner Interview

Applicants express appreciation for courtesies extended to their representative, James C. Larsen, in an in-person Interview conducted April 15, 2009. In the Interview, the applied *Hirakata* and *Kubota* references were discussed with reference to the claims. In particular, differences in the Applicants' and Examiner's understanding and interpretation of particular features of the references were discussed. Claim amendments similar to those presented herein were favorably discussed with the Examiner, although indication was given that such amendments may require additional consideration.

In conclusion, Examiner maintained that the applied art references in combination appeared to render as obvious the features of the claims prior to their currently amended state, but indicated that discussed amendments may overcome the applied art of record. Nevertheless, additional supporting arguments regarding some claim features are presented below.

Amendment to the Specification

Applicants note that the paragraph beginning on page 36, line 24 (paragraph [0141] in the Publication 2005/0259064) was previously amended in error to recite "...reduce the image write-scanning duration to 2.5% of one frame period...." This amendment should have reflected a duration of 12.5% rather than 2.5% (or 25%, in the original) so that the total percentage of frame events adds up to 100% as illustrated in Fig. 10(b). (I.e., 12.5% image scanning/writing duration, 25% liquid crystal response time, and 62.5% backlight illumination duration).

Claim Rejections Under 35 U.S.C. § 103

The Examiner rejects claims 1-23 and 33-43 under 35 U.S.C. § 103(a) as being unpatentable over U.S. Patent Publication No. 2002/0067332 issued to *Hirakata* (hereinafter "*Hirakata*") in view of U.S. Patent Publication No. 2002/0075249 issued to *Kubota* (hereinafter "*Kubota*").

The Office Action asserts that *Hirakata* anticipates "a section for detecting a type of content of an image to be displayed on a liquid crystal display panel" as recited by **independent claims 1, 11, and 18**. However, *Hirakata* discloses "detection means which detects the magnitude of the change of video signal to pixel electrodes of respective pixel regions". The type of content detected in the present claims is completely different from the magnitude of change detected by *Hirakata*'s detection means.

The "genre of an image to be displayed on the [LCD] panel" which is detected by a section for detecting, as recited by the present independent claims, corresponds to information which identifies characteristics of the content (e.g., genre or program content) of the image to be displayed, rather than characteristics of the data which describes the image signal itself (such as magnitude of video signal changes, or still versus motion images). "The types of contents indicate the categories such as sport, drama, news, animation, game, etc," and may be detected based on, for example, "shooting information descriptive of the shooting conditions such as shutter speed, information as to additional motion blur and the like," video source select command information from a user, or electronic program guide information. (Specification, page 29, lines 7-25.) The magnitude of signal change, as detected in *Hirakata*, is not disclosed to indicate or identify characteristics of the type of content of the image. Hence, *Hirakata* does not disclose detection of "a genre of an image to be displayed on the liquid crystal display panel," particularly when such detection is "based on information other than the image signal to be displayed, the genre being based on a classification defined in electronic program information", as recited in claims 1, 11, and 18.

Consequently, *Hirakata* alone does not, and cannot, disclose sections for variably "controlling the illumination duration of the backlight based on the detected type of the content

of the image,” as recited by claim 1, “controlling the duration in which a black display signal is supplied to the liquid crystal display panel based on the detected type of the content of the image,” as recited in claim 11, or “variably controlling a ratio of display duration of the image signal in the one frame period, based on the detected type of the content of the image,” as recited by claim 18.

Kubota does not remedy the deficiency of *Hirakata*, as it does not disclose “a section that detects a genre of an image to be displayed, ... the genre being based on a classification defined in electronic program information.” Rather, the device disclosed by *Kubota* merely receives an input from a user to switch the display mode or format “according to the kind of video to be displayed (photographs, charts, and graphs, text, etc.)”. (See paragraph [0819].) Alternatively, the device may include a “means for identifying the kind of video signal and format”. (Id.) In either case, it appears that the “kind of video signal and format” corresponds to a determination of whether the “kind of video” is most suitable to a “transmission display mode” or a “reflection display mode” depending on the kind of input display data. (See paragraphs [0792]-[0795].) For example, “[d]isplay modes are preferably switchable whereby, for example, for a photograph for which a more vivid display is desirable, the transmission display mode is selectable, whereas for text and the like for which nothing more than mere legibility is required, the reflection display mode is selectable which, although producing a low contrast ratio, allows for reductions in power consumption.” (Paragraph [0794].) In other words, the “kinds of video” are not detected “based on information other than the image signal to be displayed [and] based on a classification defined in electronic programming information.” Nor would combination with such genre classification information, without more, provide the kind of information needed to switch *Kubota*’s display between transmission and reflection modes. That is, the “kind of video” disclosed by *Kubota* does not relate to a “genre ... based on a classification defined in electronic program information”.

Accordingly, independent claims 1, 11, and 18 are believed to be non-obvious over the combination of *Hirakata* and *Kubota*.

Dependent claims 5-6 and 13-14 are amended to recite that “gray scale levels of [or gray scale voltages applied to the liquid crystal display panel in response to] the input image signal are varied *depending on* the application duration of the black display signal such that a relationship between the input image signal and the display brightness is held constant.” The Examiner expressed in the Interview his belief that the language “depending on” (instead of “in accordance with”) would distinguish the claims from at least the applied art of record. These claims are therefore believed to recite allowable subject matter in addition to that of their base and intervening claims.

Applicants respectfully request withdrawal of the rejection for, and reconsideration of, claims 1, 11, and 18 (and claims 2-10, 12-17, and 19-23 which depend therefrom).

Independent claims 33 and 39 are cancelled, and their rejections are therefore considered moot. However, the subject matter of claim 33 is incorporated in claims 35 and 36, and the subject matter of claim 39 is incorporated in claims 40 and 41.

In addition to the amendment to **claims 35, 36, 40, and 41** to include the subject matter of their base claims, they have been further amended to recite that “gray scale levels of [or gray scale voltages applied to the liquid crystal display panel in response to] the input image signal are varied depending on the application duration of the black display signal such that a relationship between the input image signal and the display brightness is held constant.” As with claims 5-6 and 13-14, the Examiner expressed in the Interview his belief that the language “depending on” (instead of “in accordance with”) would distinguish these claims from the applied art of record. Accordingly, independent claims 35, 36, 40, and 41, as amended, are believed to be in condition for allowance. Claims 34, 37-38, and 42-43 which depend therefrom are believed to be in condition for allowance for at least the same reasons as their base claims.

New Claims

Claims 44-46 have been added and apply the subject matter recited in claims 34, 37, and 38 to newly independent claim 36. Similarly, new claims 47-48 apply the subject matter recited in claims 42 and 43 to newly independent claim 41.

CONCLUSION

In view of the above amendment, applicant believes the pending application is in condition for allowance.

Should there be any outstanding matters that need to be resolved in the present application, the Examiner is respectfully requested to contact James C. Larsen, Reg. No. 58,565, at the telephone number of the undersigned below, to conduct an interview in an effort to expedite prosecution in connection with the present application.

If necessary, the Commissioner is hereby authorized in this, concurrent, and future replies to charge payment or credit any overpayment to Deposit Account No. 02-2448 for any additional fees required under 37.C.F.R. §§1.16 or 1.17; particularly, extension of time fees.

Dated: April 27, 2009

Respectfully submitted,

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